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THE EFFECTS OF COGNITIVE STYLE  
ON INTERPERSONAL ACCURACY

by

(C) RODNEY CRAIG CONKLIN

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE  
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DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES

The undersigned hereby certify that they have read and  
recommend to the Faculty of Graduate Studies for acceptance, a  
thesis entitled, "The Effects of Cognitive Style on Interpersonal  
Accuracy" submitted by Rodney Craig Conklin in partial fulfillment  
of the requirements for the degree of Doctor of Philosophy.



## ABSTRACT

The primary purpose of this study was to examine the relationship between two cognitive styles, analytic and global, and interpersonal sensitivity scores.

Sixty-three counsellors employed by the Calgary and Edmonton Public School Boards were tested for cognitive style using the Hidden Figures Test. They were then presented with six interviews in sound and color motion pictures. People in these films were being interviewed by an experienced clinician who was using a similar format from one interview to another. After each stimulus was presented four questionnaires were answered by the counsellors viewing the films. These questionnaires were the Behavior Postdiction Test, the Adjective Check List, and the Physical and Behavioral Attribute Test. A fifth score was obtained by averaging the normalized scores for the four measures. This score was referred to as the Interpersonal Accuracy Score.

It was found that analytic style counsellors scored higher on all four tests of judging accuracy and had a higher Interpersonal Accuracy Score. In addition to the main thesis of the study the effects of sex, type of training, experience, and age on interpersonal judging accuracy were studied. Female counsellors scored higher than male counsellors on two of the five judging measures. There were no differential effects on interpersonal judging accuracy when type of training, experience, and age were considered.

A faint, grayscale background image of a classical building, possibly a library or courthouse, featuring multiple columns and architectural details.

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## CHAPTER I

### THE THESIS PROBLEM AND ITS BACKGROUND



## THE THESIS PROBLEM AND ITS BACKGROUND

### I Introduction

Counsellors, unlike many other professional groups, have difficulty in establishing meaningful and objective criteria for the evaluation of their own performances. There is also little consensus about what characteristics, if any, are common to effective counsellors. Many theorists, who are involved in behavior modification, agree that whatever these elusive qualities, they are inextricably tied to the personality (Fiedler, 1950; Weitz, 1957). As a result the personality of the counsellor has been the subject of many research studies.

Much of this research has been devoted to identifying specific personality traits of good and poor counsellors. Cottle (1953) has reviewed some of this research and seems to conclude that each researcher has a different list of characteristics to identify the good and poor counsellor. Allen (1967) has commented on the fact that this trait approach has not been effective and that broader, more comprehensive, personality dimensions should be studied. Two such "higher order" factors are, according to Allen, cognitive complexity and psychological openness.

The necessity of identifying effective counsellors has been brought to the fore because of the criticism implicit in some investigations of the validity of client-centered, psychoanalytic, and eclectic psychotherapies



(Eysenck, 1952). In an attempt to answer the criticisms that psychotherapy is not an effective means of relieving neurotic behavior, proponents of these schools have been forced to admit that their research has had serious problems. One such problem has been the controlling of all variables in outcome research. This type of research has been typically carried out with "sick" populations using several therapists. The therapist provides some treatment (i.e., psychotherapy) to the patient and whatever change occurs is attributed to the psychotherapy treatment. It seems very obvious that problems in research design would occur when one realizes that actual treatment may only be a few hours per week.

As a result, it has been suggested by Paul (1967) that counselling research could be improved if all relevant variables were more readily under control of the experimenter. One could conceivably observe certain phenomena actually present in the counselling process and abstract from such situations so that a "simplified" form of the process could be carried out in laboratory setting. It is assumed that in a laboratory setting there would be greater precision of measurement, more opportunity to manipulate and more control over extraneous factors. The name "experimental analogue" is usually given to such a procedure since the variables in one setting are analogous to the variables in the other. It is reasonable to expect that the findings in the laboratory setting would have generality to actual



settings. The present study in an attempt to use the "analogue rationale" focusses on one of the higher order variables - cognitive style - and its relationship to interpersonal judging accuracy.

## II The Problem

In several papers Carl Rogers (1958, 1961) has put forward the concept of a client-centered approach to counselling and psychotherapy. Within this framework explicit statements regarding the essential ingredients in the process of therapy have been made. Rogers claims that if the therapist establishes a certain kind of relationship and if certain therapist ingredients are present, then predictable behavior change will occur. These essential ingredients are that the therapist should be a genuine person in the relationship, that he should maintain non-possessive warmth for the client, and that he should deeply and accurately sense the client's current feelings and at the same time be able to understand exactly how the client feels. Of the three ingredients, empathy seems to have received most attention from both theorists and practitioners.

Truax (1967) and many others have reiterated Roger's claim that empathy alone is enough to foster change in the psychotherapeutic relationship. Empathy involves the ability of the counsellor to accurately sense and understand the client's "private world". Rogers (1957) further states that it is this kind of sensitive understanding that makes it possible for a client "to learn, to change, and to develop". Other theorists



(Cartwright and Lerner, 1963; Patterson, 1964; Truax, 1963; Truax and Carkhuff, 1964) maintain that empathy is not only an essential ingredient of client-centered therapy, but that it is an important variable for a variety of client-centered, psychoanalytic, and eclectic approaches. There is also some evidence that therapist empathy is present in successful behavior therapy cases (Breger and McGaugh, 1965).

Although empathy has been studied for many years there remains much confusion about its meaning and utility. Insight, intuition, identification, understanding, sensitivity, and perceptiveness are only a few of the terms that have been descriptive of aspects of empathy. One reason for this confusion is that empathy has been mistaken for sympathy by the laymen and by therapists in training, but Buchheimer (1963) adequately elaborates on the difference. A sympathetic person feels along with and for another person. He does not need to be able to communicate his understanding to the other person. An empathetic person feels "into" another person. There is a convergence implied in empathy, but only a parallelism in sympathy. Even though there may be some confusion as to terminology it appears that the empathetic process presupposes some kind of interpersonal communication between counsellor and client. Furthermore, recent research has stressed the importance of appropriate interpersonal communication for the establishment of empathetic understanding (Anderson and Anderson, 1962;



Brams, 1961; Buchheimer, 1963). The results of these studies imply that in order to empathize with a client a counsellor must be capable of organizing a wide variety of expressed client communications. As Truax (1963) has stated, the counsellor must:

aim toward a more clear and sensitive awareness of the patient's inner being; towards a greater ability to deeply understand the patient's moment to moment feelings and experiencings and thus make more accurate meaning out of the shifts in posture, the slight inflections in tone, or the empty silences (p. 263).

Fiedler (1950), in a study of an ideal therapeutic relationship, found that according to practitioners the most essential characteristic was the therapist's ability to "participate completely in the client's communication". Up-to-date counselling text books (Perez, 1965; Stefflre, 1965) support the notion that interpersonal communication is one of the core variables in a counselling relationship. Whether the concept is termed empathy, sensitivity, or even perception, the counsellor's ability to observe client expression and understand this expression, appears to be one of the several relevant variables, or possibly the most important variable, in the counselling process.

Reference has already been made to the suggestion by Truax (1963) that communication between counsellor and client is not limited to verbal content. Others (Buchheimer, 1963; Christensen, 1964; Davitz, 1964; Perez, 1965; Rank, 1966) have also indicated that there exist many avenues for



communication between client and counsellor. Some of these are verbal content, vocal tone, facial expression, and gross bodily movements. All of these avenues emanate from a complex stimulus to which the counsellor must attend. The counsellor depends on the client's communication, both verbal and non-verbal, for virtually all of his information which ultimately leads him to the previously mentioned "sensitive awareness" of the client's "inner world". It seems that the counsellor is, therefore, obligated to "tune in" to all channels of communication, especially the relevant (i.e., that channel which, according to the therapist, contains meaningful and crucial information) mode, at all times during the therapeutic encounter. In order to tune in one must be able to process information from several avenues simultaneously and differentiate the relevant from irrelevant communication. For example, some counsellors are likely to attend to what the client is saying, but not necessarily to how it is being said. If the important message is hidden in the vocal cues the counsellor could miss the significance of the client's communication. Furthermore, a client-centered approach depends on an accurate understanding of what is being communicated in order for the therapist to respond appropriately.

As an example of the complexity of such communication it has been recently shown that attitudinal messages in two channel communication are linear combinations of attitudes expressed in the facial and vocal mode (Mehrabian and Ferris, 1967). Furthermore, the facial mode received



approximately 3/2 the weight of the vocal mode. This research seems to support the idea that the counsellor could, attending to only one mode, make an ineffective response. As a result the counsellor's next response, because it was cued by the wrong message, could lead him away from significant information. Counsellor trainees often fail to respond to significant information. Under these conditions an understanding relationship would be hindered in its optimum development. The counsellor who has the ability to attend to the content and to vocal cues simultaneously would more readily notice any ambiguity in the expressed communication. More generally, awareness to all channels of communication should result in more of the important information being processed, and a more accurate understanding of the client's internal frame of reference. In Dymond's (1948) terms this kind of understanding is the very essence of empathy. She has defined empathy as the "imaginative transposing of oneself into the thinking, feeling and acting of another and so structuring the world as he does".

The idea of paying attention to what is important is not a new concept, but it has recently been conceptualized in a novel way. Attention to the relevant aspects of a stimulus has recently been investigated by several theorists (Witkin, 1965; Gardner, Holzman, Klien, Linton, and Spence, 1959; Kagan, Moss, and Seigel, 1963). A term - cognitive style - has been coined which when used by these theorists refers to a personality dimension involving one's style or approach, both at the perceptual and the cognitive



levels, to the solution of many types of problems. Individuals scoring high on tests which attempt to measure this construct are able to attend to discrete parts of the stimulus and are not dependent on the field, while individuals at the other extreme see things more globally and cannot operate independently of the field. In addition, the dimension appears to be a basic personal orientation which influences many cognitive and perceptual operations. Because the concept of cognitive style involves the ability to articulate the stimulus field through an active searching for differentiation, it seems an appropriate idea for counselling. It may be that people in general and counsellors more specifically search for differentiation in the stimulus field when dealing with other people.

The client in counselling can be considered as a complex stimulus who communicates through several modes. The counsellor attends to this stimulus and searches for differentiation. This type of cognitive and perceptual search is called cognitive perception by Buchheimer (1963) who claims that cognitive perception is one of the important dimensions of empathy. One could argue that individuals whose cognitive style is such that they can separate relevant from irrelevant cues should also be able to separate relevant from irrelevant communication in the counselling situation. The communicative aspect of the relationship should, therefore, be more effective and it follows that if optimum communication is established in counselling the resulting relationship will be one in which a high degree of



understanding is present between counsellor and client.

An attempt will be made to discover whether or not the variable "cognitive style" is related to one's ability to accurately perceive and understand human beings.



## CHAPTER II

### THEORY AND RELATED RESEARCH



## THEORY AND RELATED RESEARCH

### I Cognitive Style

Recently, a considerable amount of research has been directed towards investigating the relationship between an individual's personality and his cognitive functioning. Of particular interest has been the characteristically stable way in which a person functions over a wide range of such cognitive operations as thinking, remembering, concept formation, attention deployment, and perceptual scanning. These consistent tendencies have been variously referred to by researchers in the field as cognitive style, perceptual attitudes, cognitive controls, styles of conceptualization, and perceptual-personality dispositions .

Although the labels may differ, the theorizing of the major research groups interested in this area is similar. For instance, Witkin (1965) reports that "... recent research has demonstrated that people show characteristic, self-consistent ways of functioning in their perceptual and intellectual activities (p. 317)." Gardner (1964) defines cognitive style as being "... comprised of enduring arrangements of cognitive processes that shape the expression of intentions under particular types of environmental conditions (p. 147)." Kagan, Moss, and Siegel (1963) define conceptual style as "... stable individual preferences in mode of perceptual organization and conceptual categorization of the external environment



(p. 74). " It appears that these researchers conceive cognitive style as a superordinate construct which is involved in many cognitive operations and which accounts for individual differences on a variety of cognitive, perceptual, and personality variables. Each definition strongly suggests a perceptual component which is related to an active search for stimulus differentiation in the visual field. It is the thesis of this research that the aforementioned construct, "cognitive style" is an important variable in the ability to judge people accurately.

Embedded figures tests of various kinds have been frequently used to define cognitive style operationally. In tests of this kind the subject is required to locate a simple geometric figure in a more complex design which is so organized as to conceal the simple figure. In other tests, used to measure cognitive style, the relevant object can be a luminous stick within a frame (the Rod and Frame Test) or the human body in a tilted room (the Body Adjustment Test). Witkin refers to high scorers on these tests as individuals who have the ability to overcome the influence of the surrounding field. Having overcome this influence the individual is more likely to pick out the relevant object. These individuals are referred to as "differentiated" or "field independent". "Undifferentiated" or "field dependent" people are low scorers on these tests.

Faterson (1962), Holtzman (1965), and Wallach (1962) argue for a broader meaning to this dimension. They contend that the labels "analytic"



and "global" more accurately characterize a method or style of solving problems in a wide variety of situations. Faterson (1962) states that "what we have been calling 'field-dependence-independence' is thus in effect the perceptual manifestation of this more general "cognitive style" (p. 173). Wallach (1962) seems to clarify the terminology somewhat by stating that this interpretation "... contrasts active, analytical, articulated, specific, critical cognitive functioning with cognitive functioning that is passive, global, vague, diffuse, uncritical (p. 200)."

It is proposed, then, that these are two basic cognitive styles, an analytic or field independent style in which persons can easily separate details from the whole; and a global or field dependent style in which persons attend to the whole and do not easily perceive details.

If one considers a client in a counselling situation as a complex stimulus then it follows that the counsellor would have to attend to a multiplicity of stimuli or cues. It may be that a counsellor who is readily able to solve embedded figures tasks could also pick out relevant cues in the client and in his communication. Gardner (1962), a prominent cognitive style theorist, seems to make a strong case for including the construct in the counselling area. Gardner thinks that his and Witkin's tests and related procedures "... sample first and foremost individual differences in the capacity to respond selectively to relevant vs. irrelevant cues"(p. 193).

Gardner further elaborates by saying that:



the general active, analytical orientation so well described by Witkin and his co-workers actually implied superiority in selectivity of attention to relevant vs. compelling irrelevant cues no matter what the relationship between these two sets of cues (p. 194).

A recent investigation by Conklin, Muir, and Boersma (1968) with field dependent and field independent subjects lends some support to Gardner's notion. It was found that in scanning meaningful pictorial stimuli field independent (analytic) subjects fixated more often on parts of the picture that were rated high in information content. Field dependent (global) individuals, on the other hand, tended to randomly scatter their fixations over the entire display.

The solution of embedded figures tasks is not limited to the visual sense alone. Witkin (1962) reports research in which the test was modified into an auditory form. Some notes were played and then a melody was played which did or did not contain those notes in their particular sequence. Research has also been carried out with a tactile form of the test. In both cases, the scores correlated significantly with scores on the visual form of the test.

The concept of "cognitive style" has been introduced. It has been pointed out that "cognitive style" is an orientation to problem solving in many areas and is manifested by the manner in which a person searches for differentiation in a stimulus. This searching is both cognitive and perceptual. An argument has been forwarded which would imply that a counsellor in a



therapeutic relationship cognitively and perceptually searches for relevant information in the stimulus (i. e. , the client). It is, therefore, suggested that there exists a relationship between accuracy of perception of the client and "cognitive style".

## II Sensitivity and Related Concepts

The importance of counsellor sensitivity to the client in counselling relationships is well documented in the literature. Recent attempts at the construction of sensitivity or empathy tests partly underline the importance placed upon this variable by researchers. O'Hern and Arbuckle (1964), Ferguson (1965), and Rank (1966) are only a few who have dealt with this problem. Others (Brams, 1961; Robinson, 1965) have emphasized the area of communication in the counselling process. Both groups of researchers seem to be referring to the same ingredient - an accurate understanding of the client's communication.

The work of Cronbach (1955) and that reported by Cline (1964) has done much to clarify and operationally define what has been loosely termed as empathy or interpersonal sensitivity. One has only to survey the literature to discover that there are few, if any, valid interpersonal sensitivity tests in current usage. The measures which are available are, in actual fact, not empathy tests, but tests which measure the degree to which one is able to predict behavior of groups of people. This kind of sensitivity has been referred to as "sensitivity to the generalized other" or



"stereotype accuracy" and defines one's ability to judge the norm or typical response of a large group. An example would be the ability to predict the results of an opinion poll.

The type of instrument which usually measures this kind of accuracy allows for both the person being judged and the person judging to respond to a questionnaire. The latter responds to the questionnaire the way he believes the other person would respond. The difference between the two scores indicates the degree of accuracy of judgement. The lower the difference score, the more accurate is the judging ability of the judge. This difference is usually squared before analysis and is referred to as the  $D^2$  statistic. Tests which use the  $D^2$  statistic have been shown by Cronbach (1955) to have methodological pitfalls and are therefore not suitable for research. Cronbach argues for a number of accuracy components which should be used in studies of empathy. These components are:

1. Elevation (E)

This component measures the difference between the (a) grand mean of an individual judge's predictions for all "others" judged on all items and (b) the grand criterion mean.<sup>1</sup> This tells us something about the way in which a judge uses the rating scale and does not deal with accuracy per se.

---

1

The grand criterion mean refers to the mean score of the responses of the others or those being judged.



## 2. Differential Elevation (DE)

This measures the variance of the individual judge's ratings. It measures the extent to which the judge can predict the deviation from the grand mean of the mean of individual "others" taken over all traits. This score can be broken down into a correlation term (which represents the judge's ability to judge which "other" rates highest on the elevation scale) and a variance term which measures the extent to which judged differences between "others" are large or small.

## 3. Stereotype Accuracy (SA)

This is a measure of what Bronfenbrenner has called "Sensitivity to the Generalized Other," or the degree to which a judge can predict how the whole N of "others" responded to a set of items. The predicted item means averaged across persons are compared with the actual criterion item means across persons. This provides a correlation term which gives the relationship between a given set of predicted item means and the actual criterion means (of all "others" judged) and a variance term which is an index of the variability and/or complexity of the judges' stereotype.

## 4. Differential Accuracy (DA)

This measures the ability of the judges to predict the differences between "others" on each trait or item considered separately. To put it another way, this measures the difference between the scores for "others" on individual items in the judging matrix versus the criterion matrix where in each case the "others" score is the deviation from both his own mean and the item mean. Thus this can be derived mathematically by subtracting E, DE, and SA from the trait rating total score. It also has a correlation and variance term. This is considered a "pure" accuracy measure by some, even though under some circumstances it also has flaws.

(Cline, 1964; pps. 227-228)

Cline worked with these four components and after much analysis came to the conclusion that only the latter two were relevant in interpersonal



perception research. Cline and Richards (1961) used Cronbach's components and found that a total judging score (based on their film tests) was significantly related to the components, especially SA and DA. As a result of this and other studies it was concluded that general judging ability could be meaningfully measured and that there existed a general judging ability factor. Based on such findings Cline (1964) proposed a new measure called interpersonal accuracy (IA), which seemed to be a combination of Cronbach's SA and DA. The new measure also seemed to be more suitable for social sensitivity research.

Cline had also been dissatisfied with the inadequacy of stimuli which had been used for analyzing people's judgements about other people. As a result he had begun experimenting with sound, color movies even before Cronbach's criticisms and reformulations. The sound, color movie permits the recoding of a variety of visual and verbal cues in situations allowing for repeated observation as well as illustrating interview behavior which is more typical of this kind of phenomenon upon which judgements are made in real life, including actual counselling situations.

As a result of this experimentation, the Cline Interpersonal Perception Films were devised. These are 16mm sound, color movies of casual interviews which most closely approximate real counselling relationships. Filming was carried out while clients were being interviewed. Interviews followed a somewhat structured "standard" format with the following areas



being probed by the interviewee:

- (a) personal values,
- (b) personality strengths and weaknesses,
- (c) reaction to the interview,
- (d) hobbies and activities,
- (e) self conception, and
- (f) temper.

After the filming procedure, the interviewees were given a battery of psychometric tests. These included:

- (a) Minnesota Multiphasic Personality Inventory
- (b) Strong Vocational Interest Blank
- (c) California Psychological Inventory
- (d) a word association test
- (e) Otis Intelligence Test
- (f) a multiple choice sentence completion test
- (g) the Gough Adjective Check List
- (h) a 50 item Trait Rating Scale

In addition to the tests (some of which were given several times) further interviewing was done with the person filmed. Friends and relatives were also interviewed in order to gain new information and cross validate information obtained from the person himself. In this way objective data



were made available in order that questionnaires could be constructed. These questionnaires could then be given to viewers of the film and based on a small sample of the individual's behavior (the film) it could be determined how much the viewer had learned and how well he could postdict. It is a simple matter to determine scores and estimate judging accuracy. Two of the original tests were the Behavior Postdiction Test and the Adjective Check List. These and the other scales will be more fully described in Chapter IV.

Since Cline carried on his work with his films, others have begun to work in the same area. Rank (1966) also developed a judging instrument based on the viewing of a 16 mm sound and motion picture. Counsellor education staff members viewed the films (actual counselling with an adolescent) and selected statements describing counsellor-client interaction and client behavior. These statements were pooled and after redundant and inappropriate statements were discarded a total of 200 statements remained. From this pool, Likert-type test items were constructed which eventually comprised the Film Test of Counsellor Perception (FTCP). The instrument was used in research which related staff rankings of counsellor competence with scores on the FTCP. The resulting correlation was .41; significant at beyond the .01 level.

Research in the area of counsellor empathy and interpersonal sensitivity in general has had problems with psychometric measurement.



There are few valid and reliable tests available and as a result researchers have been forced to experiment with new devices. Recent attempts at measuring empathy have taken the form of motion pictures. One of the most notable examples (Cline, 1964) has been detailed on the preceding pages.

### III Theory and Research Suggesting a Relationship between Cognitive Style and Accurate Interpersonal Perception

No studies have been found by the author which directly relate cognitive style to accurate interpersonal perception. As far as is known no studies have been done which relate cognitive style to the concept of empathy. Each of the concepts, cognitive style and empathy, have many psychological correlates. If some of these correlates are related it could mean that a relationship exists because they possess some common attributes.

In a study of counsellor characteristics and effective communication in counselling Brams (1961) found a significant correlation (.36) between effective communication and counsellors' tolerance for ambiguity. The correlation was tentatively interpreted as supporting the hypothesis that counsellors who are more effective in their communication are more tolerant of ambiguous material. That is, successful counsellors are able to see the ambiguous cues and use them to enhance communication and therefore also enhance the relationship.

Robinson (1965) reports evidence that counsellors vary from one



another in terms of the client statement to which they choose to respond. Research evidence is presented in which experienced counsellors varied considerably in terms of deciding "what was the "core" of the client statement". Robinson points out that many counsellors failed to respond to relevant information, but responded instead to some other relatively unimportant information. Other counsellors, instead of responding to the important information, chose to introduce altogether new material which may have had no relation to the central issue. Robinson argues that a counsellor must be able to modify his or her approach and make sensitive adjustments to moment-to-moment client changes. This type of flexibility could very well be the type of flexibility in the analytic cognitive style orientation.

Additional support for the main thesis of this research comes from Truax and Carkhuff (1964a). They postulate several new variables as essential ingredients in the psychotherapeutic process. One of these is concreteness. Concreteness has been defined as the ability of the therapist to be specific in the use of language, rather than vague, abstract, or intellectual. This variable, according to Truax, plays a dual role; that of helping the therapist move closer, emotionally, to the client; and forcing the therapist to be more precisely accurate in his understanding of the client. In this regard even small misunderstandings become clear. Theoretically, it would appear that concreteness as defined by Truax is related to cognitive



style. At the theoretic logical level it appears that concreteness is similar in meaning to an analytic cognitive style. If these concepts are in fact similar then the results of a recent study by Truax and Carkhuff (1964b) appear to have some implications for the thesis of the present study. Truax combined what he considered to be the essential ingredients of the psychotherapeutic process; 1) empathy, 2) non-possessive warmth, 3) genuineness, 4) concreteness, and 5) intensity, into a linear equation attempting to predict constructive personality change. He found that the variable "concreteness" contributed significantly more variance than all other variables combined. On two of the change indices concreteness accounted for almost all of the variability. Although the authors do not report specific correlations they do state that all of the other therapist variables which were related to the criteria were also related to the concreteness variable.

Davitz (1964) reports research on the personality, perceptual, and cognitive correlates of emotional sensitivity. Emotional sensitivity, in this instance, was defined by Davitz as the ability to identify emotions of people while listening only to taped recordings of their voices. It was found that personality traits were not related to one's ability to be sensitive to expressions of emotions. In contrast, perceptual and cognitive correlates yielded consistently positive results with regard to predicting emotional sensitivity. The findings, says Davitz (p. 66), "... lends credence to a



conceptualization of emotional sensitivity in terms of complex stimuli, intervening perceptual and symbolic processes, and subsequent verbal responses." On the surface, at least, cognitive style would appear to be a perceptual and cognitive correlate of the type to which Davitz refers.

In part, Allen (1967) supports Davitz' view in that he suggests an abandonment of the trait-factor approach to the study of effective counsellor characteristics. Instead, the suggestion made by Allen is that "higher order" variables, such as cognitive complexity or "psychological openness" be applied to the problem of predicting counsellor effectiveness. Allen found that tests of psychological openness correlated with counsellor effectiveness whereas academic variables did not. There is no research evidence, however, which would indicate a relationship between psychological openness and cognitive style.

The foregoing may lend some credence to the idea that people with an analytic approach to problem solving should be able to make accurate judgements about people in a variety of interpersonal situations. If in a counselling situation several avenues of communication are available (i. e. , facial, vocal, and verbal) simultaneously, the counsellor using analytic perceptual and cognitive skills should be better equipped to separate relevant from irrelevant information and consequently receive a more accurate message. Another fact which becomes clear is that studying more all-encompassing personality variables such as psychological openness shows



promise (Allen, 1967).

#### IV Other Correlates of Interpersonal Perception

A research project done by Cline and his co-workers and reported by Cline (1964) compared the judging ability of several groups. These groups were undergraduate college students, professionals (clinical psychologists; psychiatrists, and graduate clinical trainees), members of a Protestant church congregation, nursing trainees, and engineering students. The results indicate a three level hierarchy. Most accurate in judging were the professionals and clinical trainees. Next came the nursing trainees, and finally the college students, the church congregation, and engineering students. It was also found that women consistently obtained higher scores than men although the differences were not statistically significant. Length of clinical (psychological) experience was related to greater accuracy in predicting verbal behavior (i. e., the Listening Test), but decreased accuracy in predicting real life social behavior (i. e., Behavior Postdiction Test). The explanation is that there may be a danger with increasing experience (age) in becoming more sensitive and aware to only verbal behavior, but less aware and less in contact with reality and real life social behavior. The above findings are interesting in the light of O'Hern and Arbuckle's (1964) study on sensitivity which found that age, sex, type of education, and years in occupation had no significant relationship to scores received on their Sensitivity Scale. The lack of agreement between this study and Cline's



research could be due to differences in criterion instruments. O'Hern and Arbuckle used taped recordings instead of motion pictures. Both researchers also may have failed to control for the fact that the variables are interrelated. These difficulties point out some reasons for not gaining consensus among researchers in the area of perception, empathy, or sensitivity. Cline's research also discovered other correlates of judging ability. Significant correlates were:

- (a) absence of ethnocentric authoritarian attitudes
- (b) superior intellectual ability
- (c) lower scores on MMPI scales for Hypochondriasis, Dissimulation, Paranoia, Schizophrenia, Psychopathic Deviate, Prejudice, and F (validation)
- (d) higher scores on the MMPI Social Status, and Intellectual Efficiency scales.

In a recent study Vingoe and Antonoff (1968) found that good judges of others were less neurotic, less extraverted, higher on the CPI "well being", "tolerance", and "intellectual efficiency". Good judges also tend to minimize their worries.

Some research evidence has been presented showing that there may be other variables related to empathy. These variables are sex, age, and type and amount of education and experience. Although the results of two studies seem to be contradictory there is reason to believe that an analysis



which controlled for the fact that the above variables are interrelated would be worthwhile.



## CHAPTER III

### DEFINITIONS AND HYPOTHESES



## DEFINITIONS AND HYPOTHESES

### I Definitions

The following definitions have been adopted for use in this study.

Counselling is a one-to-one relationship in which at least one of the parties has the intent of promoting the growth, development, maturity, improved functioning, and improved coping with life of the other (Rogers, 1961).

Cognitive Style is a perceptual disposition toward many problem solving situations and is defined by many tests and tasks one of which is the Hidden Figures Test.

Analytic Style is a cognitive style of persons who are able to differentiate embeddedness in a surrounding perceptual field and who score low on the Hidden Figures Test.

Interpersonal Accuracy (or judging accuracy) will be defined by scores made on the various questionnaires which follow the showing of the Cline Interpersonal Perception Films. A total score will be defined as the sum of the normalized score on each test. High scorers possess accuracy in interpersonal judging.

### II Hypotheses

#### Primary Hypotheses

The primary hypothesis of this study is that school counsellors who score highly on the Hidden Figures Test, and therefore become categorized as analytic, will also score higher on tests of interpersonal accuracy.

Hypothesis I : It is hypothesized that analytic counsellors score higher than global counsellors on the Behavior Postdiction Test.



Hypothesis II : It is hypothesized that analytic counsellors score higher than global counsellors on the Adjective Check List.

Hypothesis III : It is hypothesized that analytic counsellors score higher than global counsellors on the Opinion and Attitude Test.

Hypothesis IV : It is hypothesized that analytic counsellors score higher than global counsellors on the Physical and Behavioral Attribute Test.

Hypothesis V : It is hypothesized that analytic counsellors score higher than global counsellors on Interpersonal Accuracy.

#### Secondary Hypotheses

In addition to the prime intent of this study five other hypotheses were tested. These secondary hypotheses, because they were not couched in a detailed rationale based on research and theory, are not stated in formal hypothesis form. Data concerning the sex, type of education, age, and years of counselling experience of the counsellors who participated in the study were available. As a result of this availability it seemed reasonable that the relationship between these variables and the criteria be explored. Counsellors were divided into two groups on the basis of sex, two groups on the basis of type of education, three age groups, and four groups relative to experience. In each case the scores of the groups on each of the five criterion measures will be compared.



## CHAPTER IV

### METHOD



## METHOD

## I The Sample

Counsellors in the public and separate schools of Edmonton and Calgary served as subjects for the study. Counsellors were defined as those who devoted at least one-half of their working time to counselling. Counsellors were first contacted by letter and a follow-up contact was made by telephone. Ultimately, 18 of 35 counsellors from Calgary schools and 45 of 50 from Edmonton schools served as subjects. The total number was 63; 43 males and 20 females. Ages, type of education and experience of counsellors varied considerably and are reproduced in Tables I, II and III.

TABLE I : AGE OF SAMPLE

Age	frequency	total for groups
under 24	1	
24-25	5	18
26-27	4	
28-29	8	
30-31	4	
32-33	4	
34-35	4	23
36-37	6	
38-39	5	
40-41	5	
42-43	4	
44-45	2	
46-47	3	22
48-49	2	
50-51	1	
over 51	5	



TABLE II : EDUCATION OF SAMPLE

Counsellor Training	number
With practicum	41
Without practicum	22
Total	63

TABLE III : COUNSELLING EXPERIENCE OF SAMPLE

Number of years counselling	number
1	21
2	9
3	8
4	2
5	7
6	6
7	2
8	0
9	1
10	3
11	2
over	2
Total	63



## II Testing Instruments

### Hidden Figures Test

The individual form of this test consists of 24 complex colored figures. Each complex figure contains one of eight simple figures. In administering the test a card on which a complex figure appears is shown to the subject for 15 seconds, and he is asked to describe it. Then a card containing the simple figure embedded in that complex figure is shown for ten seconds. Following this, the complex figure is again presented and the subject's task is to find the simple figure and to trace it with a blunt stylus.

The score on each item is the time taken to find the embedded figure. A maximum of five minutes per card is allowed, after which a failure is recorded and the next card is presented. Re-examination of the simple figure is permitted when requested, for 10 second periods; the time record is held in abeyance during any such interval.

The items differ considerably in difficulty, ranging from mean times of 10 seconds to over two minutes for college males, and for failure rates from 0 to 27 per cent for college females. Reliability coefficients are high, the median coefficient in ten studies being .905 (Gough, 1965).

A manual for the test is not available. Witkin's (1950) paper, "Individual Differences in Ease of Perception of Embedded Figures" is distributed with the test materials, and a later paper, "Cognitive Development and the Growth of Personality" (1961) is also available. There



are now available many variations of this particular test. Jackson (1965) administered every other item of the full 24 item test and obtained correlations of the order of .90. The test is useful since the administration time is cut in half. A children's form of the test has been developed by Karp and Konstadt (1963) and several group forms of the test are also available (Jackson, Messick, and Myers, 1964). All of the variations have been shown to be reliable and many validity studies have been done with all of them.

One of the group forms of the Hidden Figures Test which appears to be most popular was used for this study. It consists of two parts each having 16 items and each timed to a limit of 10 minutes. The format is similar to the individual test in that "simple" geometric figures are presented and must be located in a more complex geometric configuration. In the group form five simple figures are shown and the subject must find one of the simple figures in the more complex design. When this is done the appropriate one is marked and the subject moves on to another item.

The Hidden Figures Test (HFT) has been administered to several groups by the author in order to obtain reliability data. A total score test-retest reliability was obtained by administering the test to 111 first year university students registered in Educational Psychology in the winter of 1966-67. The test-retest period was six weeks. The stability coefficient was .71. A complete summary of these results is reported by Boersma



(1968). In addition to Boersma's data two groups of second year education students took the test and the resulting KR-20 reliability coefficients were .61 and .74. The numbers in these two groups were 48 and 38 respectively. In terms of validity, correlations between the group test and the individual embedded figures test range from .56 to .75 (Jackson, Messick, and Myers, 1964). West (1968) reports correlations between part 1 and part 2 of the test as .88 (n=1107), .60 (n=233), .58 (n=99) and .72 (n=46). West also reports the following data to add to the validity of the test.

- (a) Correlation between HFT and the Rod and Frame Test is .50 (n=40).
- (b) Correlation between HFT and psychological differentiation as measured by figure drawing is .40 (n=89).
- (c) Correlation between HFT and the Individual Embedded Figures test is .51 (n=46).

A copy of the Hidden Figures Test is included in Appendix A.

#### Tests of Interpersonal Accuracy (Dependent Variable)

These tests are based on the Cline Interpersonal Perception Films. They are answered by subjects after viewing the films. Scores on these tests can be calculated by summing the number of correct responses. A total score can be obtained by adding standardized scores for all four tests. The following tests were the ones used in this study and can be seen in their



entirety in Appendix B.

### 1. Behavior Postdiction Test

This test is designed to evaluate how well a viewer of the interview in the films is able to postdict real life behavior. There are 15 questions in a multiple choice format. The following item is question 5 taken from Film G.

5. What does her emotional reaction to others seem to be,

- a. A little cool and reserved
- b. Usually warm and responsive
- c. Initially very reserved but a little warmer after she becomes well acquainted

There is only one correct answer and the other alternatives are so constructed that they are not even partially correct. Other items tap such areas as relations with the opposite sex, behavior at social gatherings, and handling money. Objective answers to items were determined from intensive interviews held with the client and his family, close friends, fraternity brothers and/or fiancee or wife. An accuracy score for postdicting can be calculated by summing the number of correct predictions over all films.

### 2. Adjective Check List

On this test subjects are required to predict which of 20 adjectives the interviewee had previously checked as being self-descriptive. Adjectives are presented in pairs and one of the pair is correct while the other is incorrect. The score is the number of correct adjectives checked.



### 3. Opinion and Attitude Test

This test consists of 40 short statements which could have been voiced during the interview. Twenty of the statements were actually spoken by the person being interviewed and 20 were not. It is the task of the judge who views the films to check the 20 correct statements. A score for each film is the number of correct statements checked and a total score can be obtained by summing over all films. The test is essentially a test of listening. It would be reasonable to say that it is a measure of how closely he or she is attending to auditory stimuli. As well as a total score based on the number of correct statements identified, an error score can be obtained. This score would be the total number of statements checked which were not spoken in the interview.

### 4. Physical and Behavioral Attribute Test

This test also consists of 40 items which relate to the physical and behavioral make up of the person being interviewed in the film. As in the previous test, 20 items are correct and 20 items are incorrect. The judge's task is to check the twenty correct items. A total score can be obtained by summing the correct items over all films. An error score can also be obtained on this test. Such a score would be the total number of incorrect attributes checked; summed over all films. The test is one of "seeing" ability. One must attend closely to physical and behavioral attributes in order to score highly on this test. Some items are "lipstick", "shy",



"few hand gestures", and "crooked teeth".

Sawatzky (1968) in a study using the Cline Interpersonal Perception Films measured a test-retest reliability for each of the scales. His findings were as follows:

Behavior Postdiction	.57
Adjective Check List	.54
Opinion and Attitude Test	.72
Physical and Behavioral Attribute Test	.85

Correlations are Pearson product-moment and the testing interim was three months with twenty subjects.

### III Major Independent Variables

1. Cognitive Style - measured by scores on the HFT.
2. Age - in years.
3. Training - categorized in terms of whether or not the individual was exposed to a counselling practicum at the graduate level.
4. Sex - male or female
5. Experience - number of years engaged in at least one-half time counselling or related work.

### IV Procedure

Counsellors who had volunteered to participate in the study were brought together in small groups and asked to complete the Hidden Figures Test. After this test was completed (approximately 20 minutes) and all



protocols collected the Cline Interpersonal Perception Films were shown.

After the viewing of each film counsellors were asked to complete the Behavior Postdiction Test, the Adjective Check List, the Opinion and Attitude Test and the Physical and Behavioral Attribute Test. Six films in all were shown. Cline (1964) has stated that this number is most convenient since two hours is about the maximum time that a subject will sit and tolerate looking at films. As a result, blocks of six films have been used in most of his research studies. The films used in this study presented as representative as possible a cross section of adults living in a midwestern United States urban centre. The six interviewees in the films are briefly described as follows:

- (a) a married man, about 50 years of age, who spends much of his spare time working on university courses;
- (b) a male director of personnel about 35 years of age;
- (c) a single girl who is an undergraduate English major at the University;
- (d) a single girl of about 30 who works as a nurse's aid;
- (e) a 60-year-old salesman;
- (f) a widow and retired school teacher of about 65.

Three of the above stimulus figures were male and three were female. The showing of films and answering questionnaires took two and one-half hours.



The other data used in the study were gathered from personal records of the subjects.



## CHAPTER V

### RESULTS



## RESULTS

### I Statistical Analysis

In order to test the hypotheses an analysis was required which would compare the performance of various groups on the various criterion measures. A standard one-way analysis of variance (Winer, 1962) was adopted for use in analyzing the primary hypotheses. This particular analysis has the advantage of comparing groups of different numbers and also compares more than two groups at one time. The analysis actually compares the variability of scores within a group to the variability of scores between groups. An F-ratio is computed which signifies, at what level of significance, that there exists some difference between the groups being compared. For the purposes of this study the .05 level was chosen as the level of significance. In order to test the secondary hypotheses an analysis of covariance was used in order to control for intercorrelated variables of age, training, and experience.

#### Primary Hypotheses

For these hypotheses analytic counsellors were defined as those having scores of 14 (the mean of the distribution) or greater on the Hidden Figures Test. Global counsellors were defined as those whose scores on this test fell below 14. The analysis of the criterion measures adopted the following pattern:



Factor: Cognitive Style

Analytic	Global
n=27	n=36

### Secondary Hypotheses

The secondary hypotheses followed the same structural pattern as the primary hypotheses.

Factor: Sex  
 Covariates: Age  
 Training  
 Experience

Male	Female
n=43	n=20

Factor: Age  
 Covariates: Sex  
 Training  
 Experience

Under 30	30-39	Over 40
n=18	n=23	n=22

Factor: Training  
 Covariates: Age  
 Sex  
 Experience

Practicum	No Practicum
n=41	n=22

Factor: Experience  
 Covariates: Age  
 Sex  
 Training

1 Yr.	2-3	4-7	8+
n=23	n=14	n=18	n=8



## II Findings

Tables IV-VIII present the means and standard deviations for all groups compared on the criterion measures. Tables IX-XIII present the results of the one-way analyses of variance and covariance on the criterion measures for all hypotheses.

### Primary Hypotheses

- (a) Hypothesis I is confirmed. Analytic subjects scored higher than global subjects on the Behavior Postdiction Test ( $p < .02$ ).
- (b) Hypothesis II is confirmed. Analytic subjects scored higher than global subjects on the Adjective Check List ( $p < .01$ ).
- (c) Hypothesis III is confirmed. Analytic subjects scored higher than global subjects on the Opinion and Attitude Test ( $p < .01$ ).
- (d) Hypothesis IV is confirmed. Analytic subjects scored higher than global subjects on the Physical and Behavioral Attribute Test ( $p < .01$ ).
- (e) Hypothesis V is confirmed. Analytic subjects scored higher than global subjects on the Interpersonal Accuracy Score ( $p < .01$ ).

### Secondary Hypotheses

When sex of counsellors was taken into consideration it was found that females scored higher than males on two of the criterion measures. These two measures were the Adjective Check List and the Interpersonal Accuracy Score. On the other measures female mean scores were higher, but not statistically significant.



No differences were found on the criterion measures when counsellors were grouped according to age, experience, and whether or not they had a counselling practicum.

Table IV

Means and Standard Deviations of Judging Scores  
Obtained by Analytic and Global Counsellors

	Analytic	Global		
	Mean	S. D.	Mean	S. D.
Behavior Postdiction	53.85	6.56	49.44	6.65
Adjective Check List	80.33	9.40	75.67	6.33
Opinion and Attitude	86.44	8.68	79.11	12.05
Physical and Behavioral	74.77	13.72	63.69	12.84
Interpersonal Accuracy	52.89	5.23	46.51	4.83

Table V

Means and Standard Deviations of Judging Scores  
Obtained by Males and Females

	Males	Females		
	Mean	S. D.	Mean	S. D.
Behavior Postdiction	50.92	6.65	52.22	7.74
Adjective Check List	75.79	7.11	81.25	9.07
Opinion and Attitude	80.45	11.60	86.12	12.88
Physical and Behavioral	67.94	13.62	70.42	15.40
Interpersonal Accuracy	48.15	5.15	51.93	4.78



Table VI

Means and Standard Deviations of Judging Scores  
Obtained by Different Age Groups

	Age of Counsellors			
	Under 30	30-39	40 and over	
Behavior Postdiction	$\bar{X}$	49.82	52.39	51.46
	S. D.	7.74	5.85	7.62
Adjective Check List	$\bar{X}$	77.35	77.95	77.22
	S. D.	7.30	8.75	8.11
Opinion and Attitude	$\bar{X}$	83.40	84.52	78.95
	S. D.	12.01	11.92	12.63
Physical and Behavioral	$\bar{X}$	67.50	71.06	67.30
	S. D.	15.99	15.58	10.80
Interpersonal Accuracy	$\bar{X}$	48.75	50.70	48.43
	S. D.	6.01	5.71	6.32

Table VII

Means and Standard Deviations of Judging Scores  
Obtained by People with and without a Practicum

	Practicum			
	Mean	S. D.		
Behavior Postdiction	52.40	6.78	49.33	7.15
Adjective Check List	77.88	8.64	76.86	7.43
Opinion and Attitude	82.62	12.65	81.57	11.20
Physical and Behavioral	69.05	14.74	68.13	13.07
Interpersonal Accuracy	49.97	5.03	48.19	7.12



Table VIII

Means and Standard Deviations of Judging Scores  
Obtained by Inexperienced and Experienced Counsellors

	Number of Years Counselling				
	1	2-3	4-7	8 and over	
Behavior Postdiction	$\bar{X}$	50.35	53.77	50.81	49.85
	S. D.	8.33	6.10	5.16	8.05
Adjective Check List	$\bar{X}$	74.32	79.59	78.17	80.17
	S. D.	8.68	7.23	8.03	6.88
Opinion and Attitude	$\bar{X}$	84.35	82.75	79.30	81.97
	S. D.	11.41	13.34	12.16	13.21
Physical and Behavioral	$\bar{X}$	72.79	68.62	66.67	62.68
	S. D.	14.45	11.26	14.45	14.97
Interpersonal Accuracy	$\bar{X}$	49.20	50.61	48.53	48.83
	S. D.	6.34	5.78	4.89	5.92



Table IX

Analysis of Variance of Judging Scores  
Obtained by Analytic and Global Counsellors

Source of Variation	Sums of Squares	Degrees of Freedom	MS	F	<u>p</u>
<b>Test 1: Behavior Postdiction</b>					
Between	257.25	1	257.25	5.66	0.020
Within	2770.75	61	45.42		
<b>Test 2: Adjective Check List</b>					
Between	445.06	1	445.06	7.33	0.009
Within	3701.69	61	60.68		
<b>Test 3: Opinion and Attitude</b>					
Between	2080.06	1	2080.06	18.03	0.000
Within	7035.94	61	115.34		
<b>Test 4: Physical and Behavioral Attribute</b>					
Between	1851.12	1	1851.12	10.74	0.002
Within	10512.44	61	172.34		
<b>Test 5: Interpersonal Accuracy</b>					
Between	632.93	1	632.93	26.64	0.000
Within	1449.43	61	23.76		



Table X

Analysis of Covariance of Judging Scores  
Obtained by Males and Females

Source of Variation	Degrees of Freedom	MS	Adj. F	<u>p</u>
Test 1: Behavior Postdiction				
Between	1	21.91	0.45	0.507
Within	58	49.22		
Test 2: Adjective Check List				
Between	1	390.20	6.57	0.013
Within	58	59.43		
Test 3: Opinion and Attitude				
Between	1	422.03	2.90	0.094
Within	58	145.54		
Test 4: Physical and Behavioral Attribute				
Between	1	80.71	0.39	0.535
Within	58	206.95		
Test 5: Interpersonal Accuracy				
Between	1	187.94	5.92	0.018
Within	58	31.73		



Table XI

Analysis of Covariance of Judging Scores  
Obtained by Different Age Groups

Source of Variation	Degrees of Freedom	MS	Adj. F	<u>p</u>
<b>Test 1: Behavior Postdiction</b>				
Between	2	31.30	0.63	0.534
Within	57	49.36		
<b>Test 2: Adjective Check List</b>				
Between	2	2.95	0.05	0.952
Within	57	60.39		
<b>Test 3: Opinion and Attitude</b>				
Between	2	140.85	0.97	0.387
Within	57	145.76		
<b>Test 4: Physical and Behavioral Attribute</b>				
Between	2	90.00	0.43	0.650
Within	57	207.42		
<b>Test 5: Interpersonal Accuracy</b>				
Between	2	30.03	0.96	0.388
Within	57	31.23		



Table XII

Analysis of Covariance of Judging Scores  
Obtained by People with and without a Practicum

Source of Variation	Degrees of Freedom	MS	Adj. F	<u>p</u>
Test 1: Behavior Postdiction				
Between	1	125.76	2.55	0.115
Within	58	49.23		
Test 2: Adjective Check List				
Between	1	13.98	0.24	0.629
Within	58	59.43		
Test 3: Opinion and Attitude				
Between	1	14.76	0.10	0.751
Within	58	145.55		
Test 4: Physical and Behavioral Attribute				
Between	1	11.74	0.06	0.815
Within	58	206.94		
Test 5: Interpersonal Accuracy				
Between	1	42.29	1.33	0.253
Within	58	31.73		



Table XIII

Analysis of Covariance of Judging Scores  
Obtained by People Differing in Experience

Source of Variation	Degrees of Freedom	MS	Adj. F	<u>p</u>
Test 1: Behavior Postdiction				
Between	3	46.93	0.97	0.414
Within	56	48.47		
Test 2: Adjective Check List				
Between	3	100.22	1.68	0.182
Within	56	59.78		
Test 3: Opinion and Attitude				
Between	3	61.36	0.41	0.743
Within	56	148.02		
Test 4: Physical and Behavioral Attribute				
Between	3	180.13	0.84	0.477
Within	56	213.97		
Test 5: Interpersonal Accuracy				
Between	3	12.64	0.39	0.759
Within	56	32.20		



### III Conclusions

On the basis of the findings in this study the following conclusions can be made:

1. Analytic Counsellors as defined by scores on the Hidden Figures

Test score higher on all tests of judging accuracy. These are:

(a) Behavior Postdiction

(b) Adjective Check List

(c) Opinion and Attitude

(d) Physical and Behavioral Attribute

(e) Interpersonal Accuracy Score

2. Female counsellors score higher on two tests of judging accuracy

than do male counsellors. These two tests are:

(a) Adjective Check List

(b) Interpersonal Accuracy

3. Counsellors with a practicum, younger counsellors, and counsellors with more experience did not score significantly different on judging accuracy measures than counsellors without a practicum, older counsellors, or counsellors with less experience.

The primary hypotheses were confirmed while one of the secondary hypotheses was partly confirmed.



## CHAPTER VI

### DISCUSSION AND IMPLICATIONS



## DISCUSSION AND IMPLICATIONS

### I Primary Hypothesis

The primary hypothesis of this study has been strongly confirmed. It appears that there does exist a relationship between performance on an embedded figures task and performance on tests of interpersonal judging accuracy following the presentation of a standard stimulus in sound, color motion pictures. The relationship is not limited to one or two of the tests, but is related to all tests of interpersonal judging accuracy. These results are significant in view of the fact that one task is related to one's orientation in problem solving while the other is theoretically related to interpersonal sensitivity. There are a number of implications for research and education which will be discussed more fully later in this chapter. Before looking at the implications some of the difficulties involved in this research and some of the shortcomings of the films are discussed.

The Cline Interpersonal Perception Films, although they appear to be the best presently available for use in research studies of this type, have inadequacies. First, and most serious, is the quality of the sound. The level varies from one film to another and within films. In all cases the sound is not exactly coordinated with the movement of the person's lips. These problems may have caused some subjects difficulty in hearing all of what was said. Some subjects complained that some items were not entirely



relevant to the content of the films. For instance, "crooked teeth", and "big nose" are relative terms and must be judged according to some standard. People complained that these standards were not explicit enough. Both of the above criticisms are valid and may have caused some annoyance, but it must be remembered that in carrying the "analogue rationale" to its fullest, one would have to admit that in actual interpersonal situations these same problems occur. One could also forward a reasonable argument that any information concerning a person can be helpful in the ultimate understanding of that person. As far as standards are concerned it is hoped that in interpersonal situations certain implicit norms are established which make one person "big" and another "small".

There is no question that the films used in this study have limitations and more research must be done with them in order to make improvements. Even after taking the limitations of the films into consideration the primary hypotheses were so strongly supported that it seems evident a relationship between cognitive style and interpersonal judging accuracy exists. The present study has focussed on one factor of empathetic understanding; that is, the understanding of another individual to the point of being able to describe him and attach labels to him. Empathy, as defined by proponents of the client-centered school of psychotherapy, implies not only the understanding, but the ability to communicate this understanding to the other person. Of the tests used in the study the Behavior Postdiction Test most



closely resembles a test involving this type of synthesizing ability. The Adjective Check List is another such test. These two tests appear to tap an intuitive type of judging ability. Both require verbal facility at the abstract level of cognitive functioning. In contrast, the Opinion and Attitude Test and Physical and Behavioral Attribute Test require attention to detail such as the spoken word or physical features. These tests do not appear to require a synthesizing ability, but only the ability to analyze. In total, the four tests would appear to measure both synthesizing and analyzing abilities.

The measure of sensitivity used in this study is still relatively unproven as far as its validity is concerned. It would be interesting, therefore, to compare scores on the film tests with scores on the Accurate Empathy Scale (Truax and Carkhuff, 1967). Using the same rationale as was used here one would expect to find a significant positive relationship. It would also be interesting to relate scores on these tests to "counsellor effectiveness".

Two investigations of this type were instituted by the author. In one of these studies nine of the counsellors were rated for overall "counsellor effectiveness" by their supervisors. The supervisor had no knowledge of their film test scores, nor had he even seen the films. These ratings were compared to scores on interpersonal judging accuracy measures. A Spearman rho of .62 was computed which indicated a significant positive relationship ( $p < .05$ ) between "counsellor



effectiveness" on the job as rated by their supervisor and scores on the film tests. In addition to the above study, twelve practicum students in a graduate counsellor training program were asked to view the films and answer the tests. Their film test scores were compared with their practicum grades at the end of the year. Again, a significant positive relationship was found ( $p = .55$ ;  $p < .05$ ). The above two studies seem to indicate that there exists a relationship between scores on the film tests and counsellor effectiveness. One must be careful not to conclude a "cause and effect" relationship. Further studies using larger groups and more refined ratings of effectiveness should be instituted.

If as suggested there exists a relationship between counsellor effectiveness and scores on the Cline film tests then one could argue that there exist implications for counsellor training. In a recent article Delaney (1968) argues that sensitivity to non-verbal communication is a very necessary part of counselling. Furthermore, he believes that this kind of sensitivity could be learned in practicum setting by counsellor trainees. He states that this task could be accomplished through:

- (a) discussion of the professional literature in the area;
- (b) discussion of video tapes with and without the audio;
- (c) use of the Schlosberg scales (scales for judging facial expression) and other materials;
- (d) study of the roles of coaching and the gestures, body movements,



and positions as aids in identifying emotion; and  
(e) evaluation.

A case is not being made that the study of the above suggestions will lead to increased counsellor sensitivity, but because these suggestions could be, according to Delaney, easily incorporated into counsellor training programs it seems a worthwhile pursuit. In addition to Delaney's suggestions as stated in (c) the study of the Cline films might prove beneficial. It may even be worthwhile to work through the solution of embedded figures tasks. One thing which seems clear, however, is that more time could be devoted to the actual study of interpersonal sensitivity in training sessions with beginning counsellors. In addition to the use of the Cline films in practicum settings they might conceivably be used to screen candidates for a counsellor training program.

It may be that, as Smith (1966) points out, an active attitude is important for effective learning in a variety of interpersonal situations. Cline and Richards (1959) found the most sensitive participants were described as egotistical and conceited by their fellow trainees. It appears that learning about people requires a certain boldness to approach them, ask questions and become involved. One does not learn about people by being passive. Further, Smith (1966) states that the most sensitive person "is an intelligent user of complex concepts" (p. 179). This ambitious, active, insightful, forceful attitude on the part of clinical psychologists,



counsellors, social workers and others has been somewhat overlooked in favor of general amiability. The keen, "cold", calculating approach with people may be most desirable in learning about them and ultimately helping them. The warm, nonthreatening approach by itself may be a myth. Certainly the results of the present study favor the active, analytic, searching attitude over the more passive global approach in the ability to judge people accurately.

## II Secondary Hypotheses

Of the secondary hypotheses only the one concerned with sex of counsellors was partly confirmed. On two of the five scales females scored significantly higher than males. In addition, the mean scores on the remaining three scales were consistently in favor of the females. This finding tends to support Cline's research in which he found that females consistently scored higher than males. The differences in his research did not reach statistical significance. In the present study females scored significantly higher than males on the Adjective Check List. This test appears to measure an ability to verbally describe others. An implication of this finding could be that females are more perceptive of verbal cues in a variety of social situations. This fact, coupled with the evidence that females scored higher on overall Interpersonal Judging Accuracy, could mean that they are more sensitive in interpersonal relations. It is interesting to speculate on the reason for the above finding and the answer



might be found in our differential child rearing practices.

The remaining secondary hypotheses were not supported, but there seemed to be some consistent trends. For instance, counsellors who received a practicum scored higher on each of the five scales than did counsellors who did not have a practicum in their background. The results did not reach significance, but the consistency of the difference is worth noting. Sawatzky (1968) also found no differences on the film tests with students of differing educational levels. The fact that the present study found no differences on the "practicum" variable could also mean that the practicums have not adequately dealt with the problem of increasing interpersonal sensitivity skills in their trainees.

The experience variable provides interesting data. Except for one test (the Adjective Check List) there was a tendency for less experienced counsellors to score higher while counsellors with more experience scored lower on the film tests. These results are based on the analysis of covariance which controlled for the effects of practicum, training, and age. It should be noted, however, that most of those who participated in this study were trained in Alberta and university programs have included practicums only for the last few years.

Figure 1 illustrates the differences by comparing counsellors with different levels of experience on the Total Interpersonal Accuracy variable.



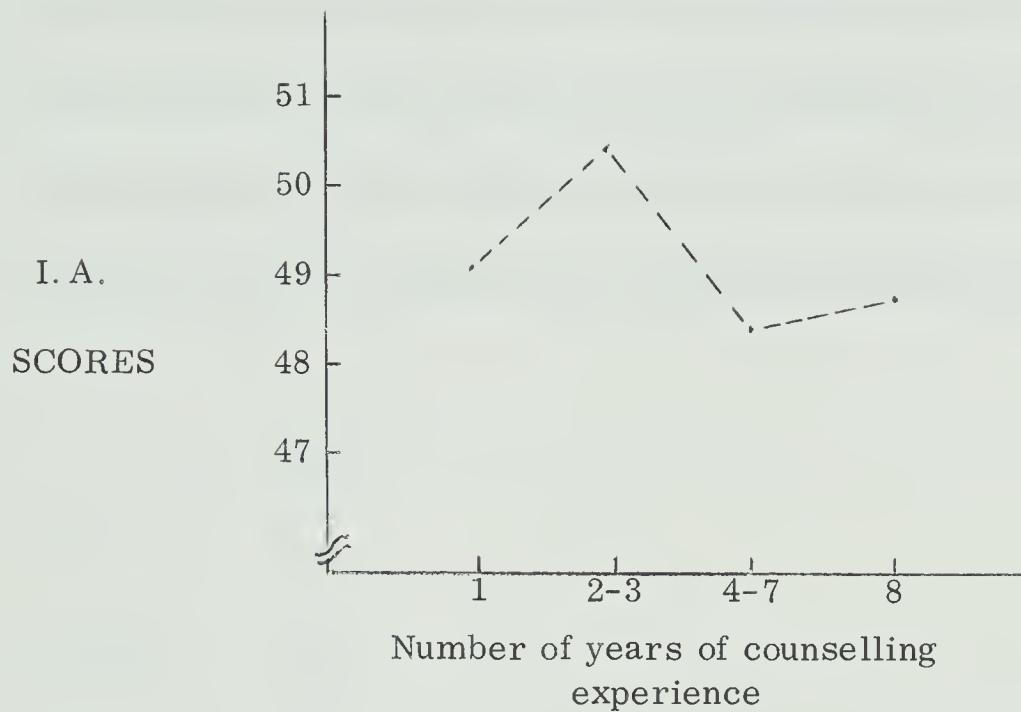


FIGURE 1

### RELATIONSHIP BETWEEN COUNSELLING EXPERIENCE AND JUDGING ABILITY

Some support for this trend comes from Truax (1967). He reports a study in which experienced therapists did not score higher than beginning therapists on empathy, genuineness, and positive regard. In the same book Truax also reports a study in which the experienced therapists scored lower than the beginning therapists on these facilitative factors. It may be that one's interpersonal sensitivity decreases with increasing experience. More research appears to be needed in the general area of the developmental aspects of empathy in regard to age.

Inspection of the mean scores for different age groups indicates generally that there is a trend for middle-aged (i.e., 30-39) counsellors to



score highest while younger and older counsellors score lower. Although these differences were not statistically significant there does seem to be a trend which could be investigated with other measures of interpersonal sensitivity such as rating of taped excerpts of actual counselling.

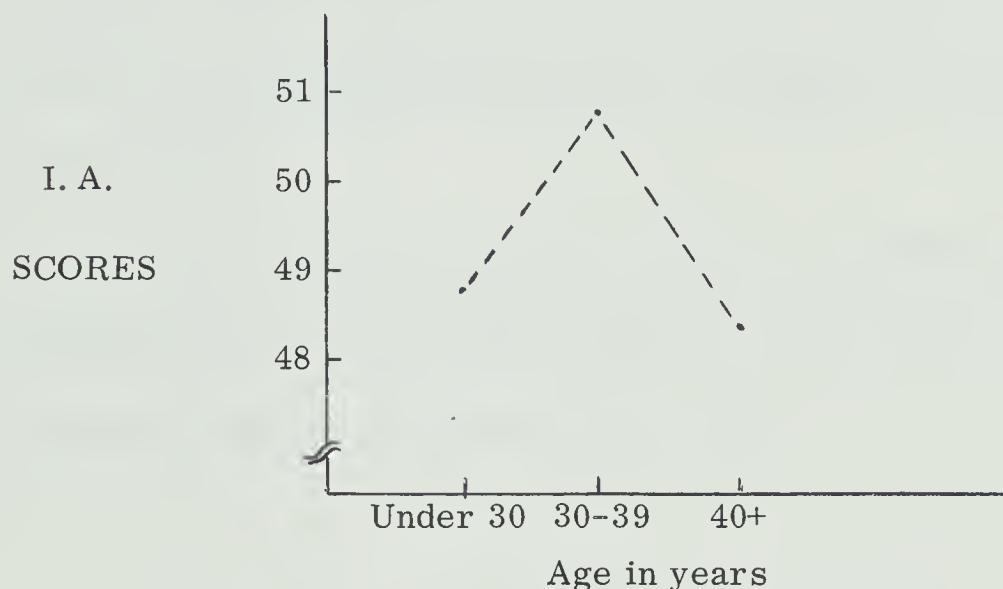


FIGURE 2

### RELATIONSHIP BETWEEN AGE AND JUDGING ABILITY

#### III Summary

The present study has explored the relationship between "interpersonal sensitivity" and cognitive style. A significantly positive relationship was found to exist which implies that skill in interpersonal relationships is somehow related to one's orientation in problem solving situations (i.e., cognitive style). In addition to the main thesis of the study the relationship between "sensitivity" and some other variables was



explored. These variables included sex, experience, training, and age of counsellors who participated in the study. The only definitive statement that can be made is that females scored higher on 2 out of 5 judging variables. Otherwise, there seemed to be a trend for the more sensitive counsellor to be female, between 30 and 39 years of age, with a practicum in the educational background and only one or two years of counselling experience in the schools.

Only when more definitive research is instituted to study each of these factors can conclusions be drawn as to the effect of age, experience, sex and training on interpersonal sensitivity.



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## REFERENCES

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## APPENDIX A

Hidden Figures Test



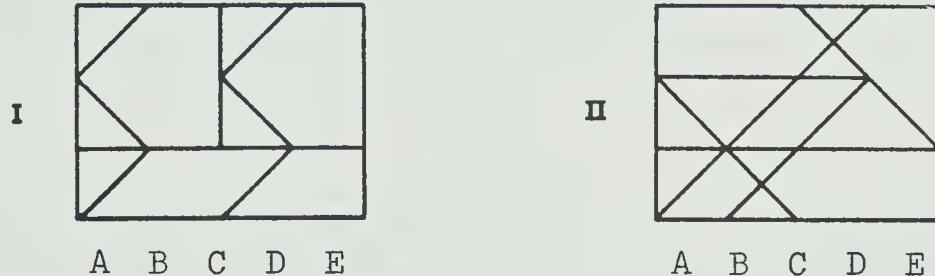
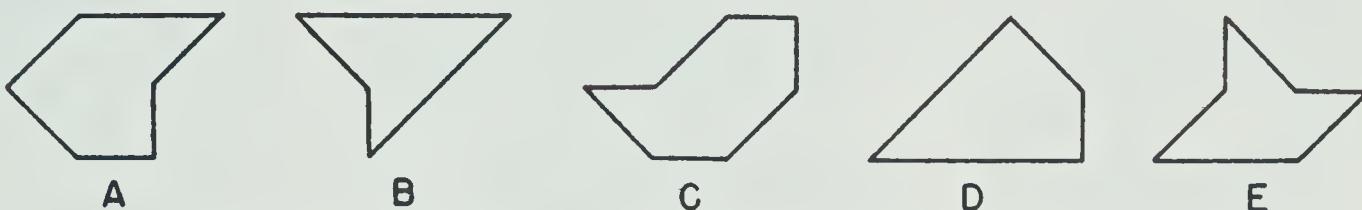
Name: \_\_\_\_\_

HIDDEN FIGURES TEST — Cf-1

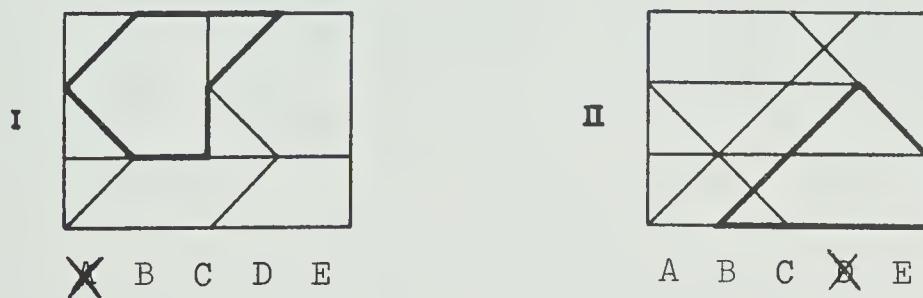
This is a test of your ability to tell which one of five simple figures can be found in a more complex pattern. At the top of each page in this test are five simple figures lettered A, B, C, D, and E. Beneath each row of figures is a page of patterns. Each pattern has a row of letters beneath it. Indicate your answer by putting an X through the letter of the figure which you find in the pattern.

**NOTE:** There is only one of these figures in each pattern, and this figure will always be right side up and exactly the same size as one of the five lettered figures.

Now try these 2 examples.



The figures below show how the figures are included in the problems. Figure A is in the first problem and figure D in the second.

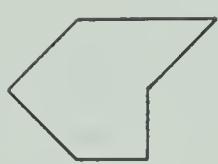


Your score on this test will be the number marked correctly minus a fraction of the number marked incorrectly. Therefore, it will not be to your advantage to guess unless you are able to eliminate one or more of the answer choices as wrong.

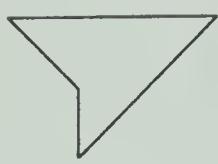
You will have 10 minutes for each of the two parts of this test. Each part has 2 pages. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO.

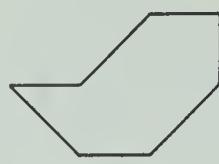
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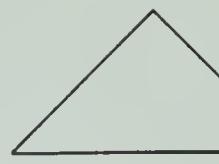
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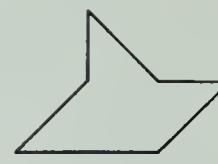
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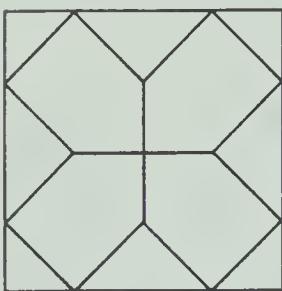
C



D

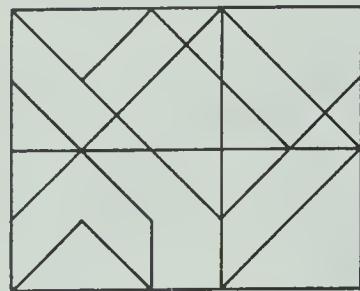


E



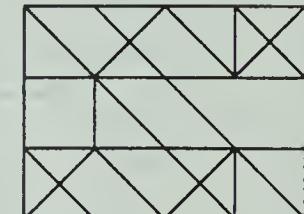
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A B C D E



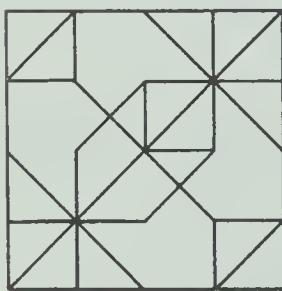
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A B C D E



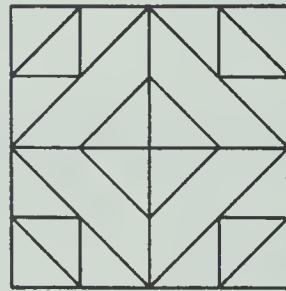
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A B C D E



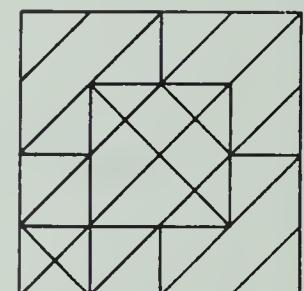
4.

A B C D E



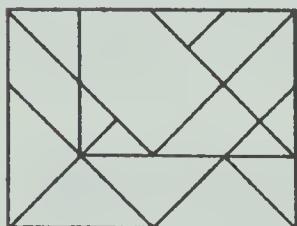
5.

A B C D E



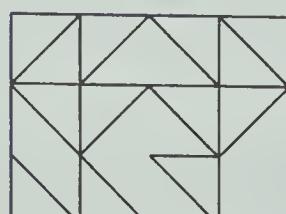
6.

A B C D E



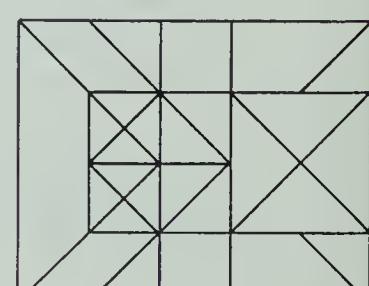
7.

A B C D E



8.

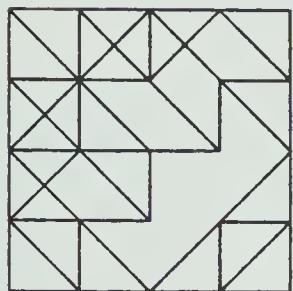
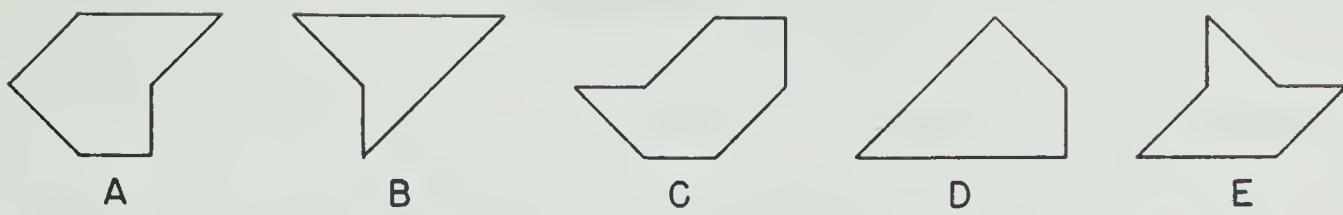
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9.

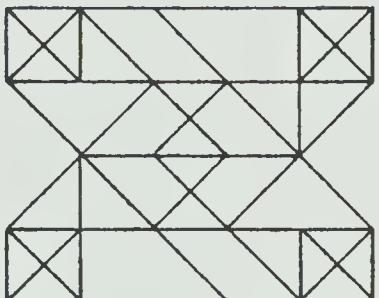
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Part 1 (continued)



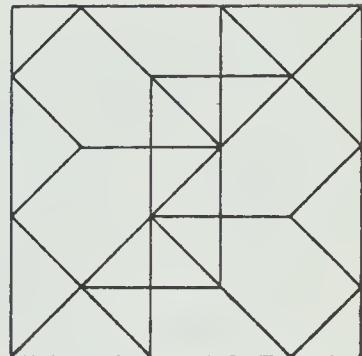
10.

A B C D E



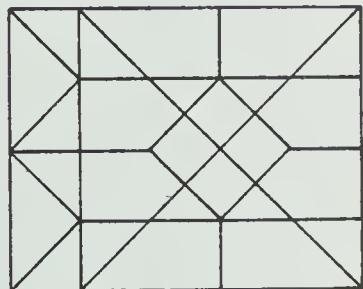
11.

A B C D E



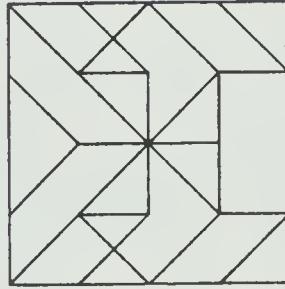
12.

A B C D E



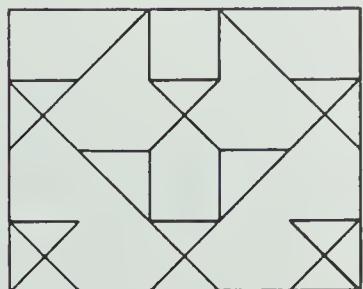
13.

A B C D E



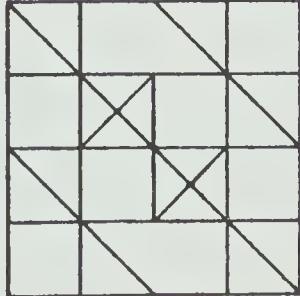
14.

A B C D E



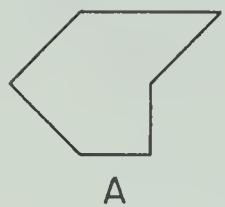
15.

A B C D E

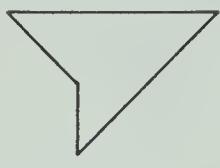


16.

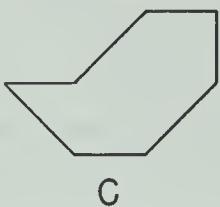
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Part 2 (10 minutes)

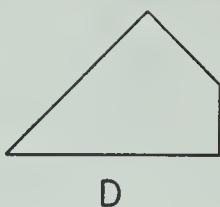
A



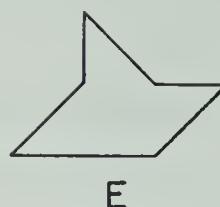
B



C

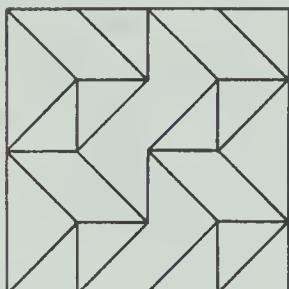


D



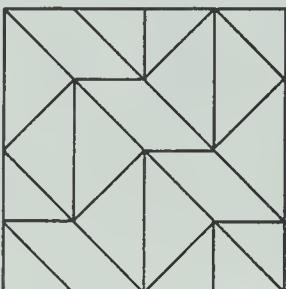
E

17.



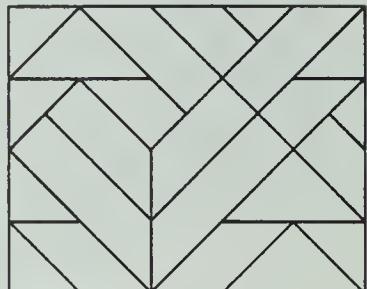
A B C D E

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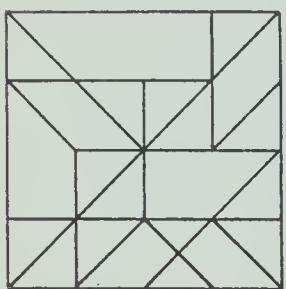
A B C D E

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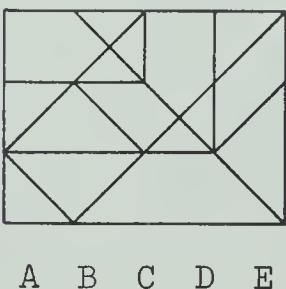
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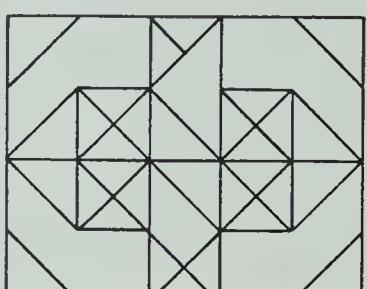
A B C D E

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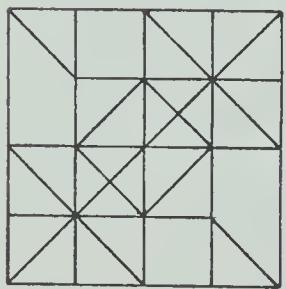
A B C D E

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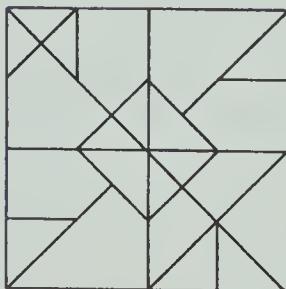
A B C D E

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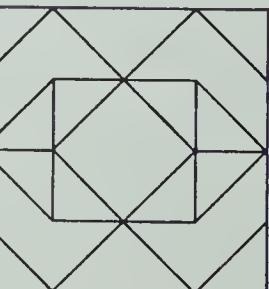
A B C D E

24.

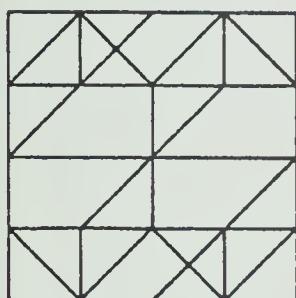
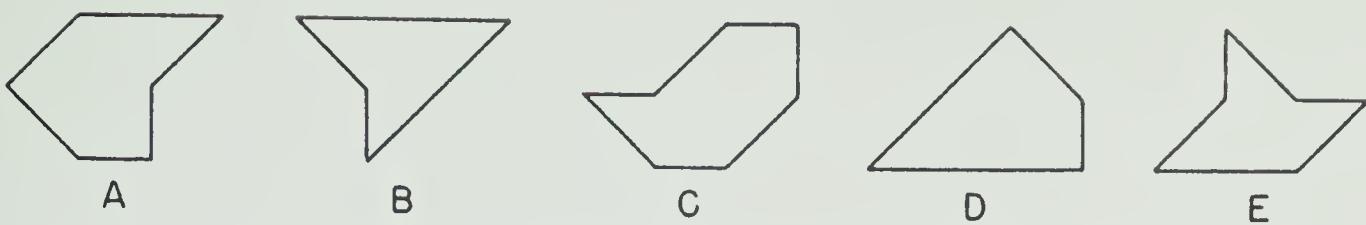


A B C D E

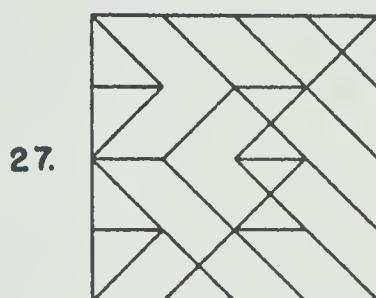
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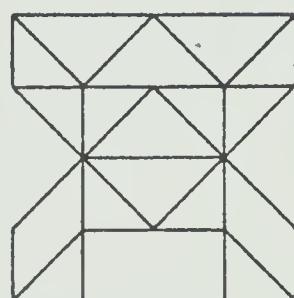
A B C D E

Part 2 (continued)

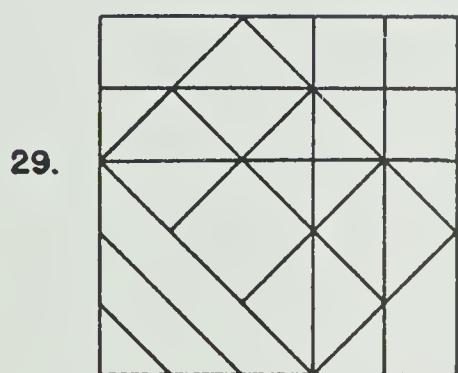
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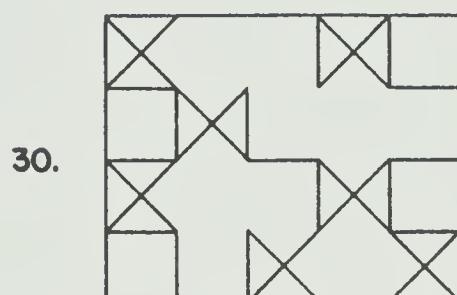
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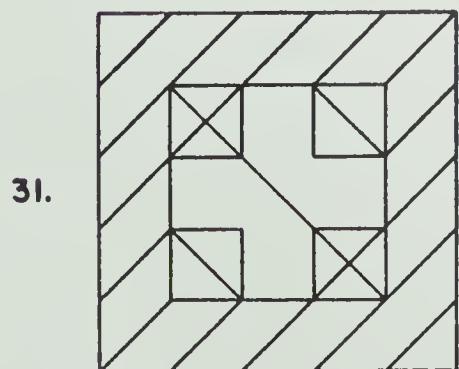
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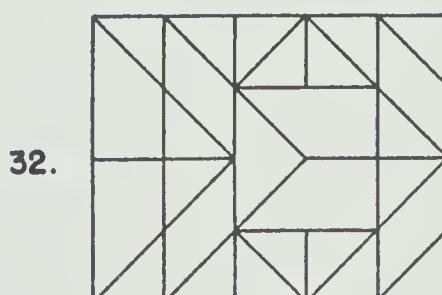
A    B    C    D    E



A    B    C    D    E



A    B    C    D    E



A    B    C    D    E







## APPENDIX B

Film EE



You are to guess how the person you just saw in the film behaves in real life (e.g., at home, on the job, around friends, etc.) Check the one alternative after each question which best describes what his real life behavior is. Do not skip any item!

1. In general, how does she get along with others?  
 a. Makes friends easily and is well-liked by those who know her.  
 b. Doesn't make friends easily.  
 c. Respected rather than liked.
  
2. What is her attitude toward other people?  
 a. Sees only good in others.  
 b. Distrusts, is suspicious of others.  
 c. Tends to kid and joke a lot - friendly.
  
3. How many people does she prefer to interact with socially?  
 a. Usually is alone.  
 b. With one close friend at a time.  
 c. In small groups of people.
  
4. What types of social activity does she usually engage in?  
 a. Entertains friends at home or visits.  
 b. Goes out with the "girls" - bridge parties, etc.  
 c. Engages in very little or no social activity with others.
  
5. Of what sex are most of her close friends?  
 a. Male  
 b. Both male and female.  
 c. Neither, she has no close friends.
  
6. How emotionally responsive is she to other people?  
 a. Usually cool and reserved.  
 b. Gushy, overly sweet.  
 c. Warm and open.
  
7. What is her greatest personal "strength", i.e., what about herself is she most proud of?  
 a. Her vocational ability.  
 b. Her independence, ability to think for herself and make good decisions.  
 c. Her artistic ability.
  
8. What is her primary life goal?  
 a. To achieve vocational success.  
 b. To marry and raise successful family.  
 c. To serve others.
  
9. How does she usually behave in a family argument?  
 a. Loses temper, swears, may throw things.  
 b. Often swayed to other person's point of view.  
 c. Listens but does not become involved, avoids arguing.



10. How does she usually respond to criticism?

- a. Accepts and cooperates, doesn't mind it usually.
- b. Badly and unpredictably, easily misconstrues comments.
- c. Completely ignores it, just pays no attention.

11. How does she react to pressure?

- a. Responds well, remains cool, effectively accomplishes task.
- b. Gets rattled and tense, may blow up.
- c. Ignores it, remains unaffected and indifferent.

12. How religious is she?

- a. Very devout and deeply involved in church affairs.
- b. Only moderately religious, and moderately involved in church affairs.
- c. No strong religious feelings, attends church rarely.

13. How interested is she in national and/or community affairs?

- a. Average amount of interest.
- b. Mainly in criticizing local and national political figures.
- c. Little or no interest.

14. How does she handle money?

- a. Spendthrift, impulsive.
- b. Is careful and practical.
- c. Strict budgeter, plans carefully.

15. How satisfied is she with her present job?

- a. Satisfied, quite happy.
- b. Dissatisfied, dislikes work.
- c. Is indifferent, it's just a job - a way to make money.



Five good friends who know the person in Film EE (whose film you've just seen) checked one adjective (in each pair of adjectives below) as accurately describing EE. YOU are to CHECK that one adjective (in each pair) which you think or guess EE's friends checked. Do not skip any pairs!

1. <input type="checkbox"/> (a) Clear thinking	11. <input type="checkbox"/> (a) Restless
<input type="checkbox"/> (b) Friendly	<input type="checkbox"/> (b) Calm
2. <input type="checkbox"/> (a) Frank	12. <input type="checkbox"/> (a) Touchy
<input type="checkbox"/> (b) Realistic	<input type="checkbox"/> (b) Self centered
3. <input type="checkbox"/> (a) Emotional	13. <input type="checkbox"/> (a) Flirtatious
<input type="checkbox"/> (b) Feminine	<input type="checkbox"/> (b) Bossy
4. <input type="checkbox"/> (a) Dependable	14. <input type="checkbox"/> (a) Defensive
<input type="checkbox"/> (b) Generous	<input type="checkbox"/> (b) Aloof
5. <input type="checkbox"/> (a) Persevering	15. <input type="checkbox"/> (a) Egotistical
<input type="checkbox"/> (b) Changeable	<input type="checkbox"/> (b) Despondent
6. <input type="checkbox"/> (a) Outspoken	16. <input type="checkbox"/> (a) Quiet
<input type="checkbox"/> (b) Rational	<input type="checkbox"/> (b) Hasty
7. <input type="checkbox"/> (a) Persistent	17. <input type="checkbox"/> (a) Immature
<input type="checkbox"/> (b) Anxious	<input type="checkbox"/> (b) Quitting
8. <input type="checkbox"/> (a) Artistic	18. <input type="checkbox"/> (a) Uninhibited
<input type="checkbox"/> (b) Idealistic	<input type="checkbox"/> (b) Loud
9. <input type="checkbox"/> (a) Forceful	19. <input type="checkbox"/> (a) Robust
<input type="checkbox"/> (b) Confident	<input type="checkbox"/> (b) Painstaking
10. <input type="checkbox"/> (a) Contented	20. <input type="checkbox"/> (a) Cautious
<input type="checkbox"/> (b) Jolly	<input type="checkbox"/> (b) Moody



Film EE

INSTRUCTIONS: Listed below are quotations depicting some general opinions and attitudes which might or might not have been said in the interview you have just witnessed. Darken the circle for those that you are fairly certain were voiced in the interview. Please work as rapidly as possible.

- O Not much of what I know about FDR is good.
- O I like football, it's my kind of sport.....
- O I thought he (FDR) was a pretty good one.....
- O My father thought he (FDR) was the best to his time.
- O I like to lead people.
- O I like symphony concerts too.
- O I thought IKE did poorly for what he had to work with...
- O I like football.
- O Yeh ! How about social life !
- O I'd like to be a little thinner (ten years hence).
- O The kids for one thing (upset her).
- O People don't go for people who are heavy like me....
- O I love to knit, yes.
- O I doubt that I will ever have a daughter.
- O My weight. (personality handicap)
- O I'm not too fond of sewing.
- O I doubt that I will ever vote, it's too much trouble.
- O I ski in my off time. That's why I dislike summer.
- O I wouldn't like her (daughter) to have my housekeeping talents.
- O Right now I'm reading Galahad.....
- O Religion is equally important to me...
- O ....I have friends; what did you expect?



Film EE (Cont'd)

- O I feel I'm doing quite well in my job.
- O ....so I haven't too many (friends) up here right now.
- O .....pretty good at housekeeping, but I can't cook.
- O Any job would be better than the one I have now.
- O I don't have too much social life.
- O ...and it (religion) offers a lot more than anything else.
- O I like art, drawing and....
- O ...and God is a pretty good thing to believe in....
- O I think they (labor unions) are pretty good.
- O I don't like it (job) at all.
- O It's important for people to believe in God.
- O I think religion is the only thing....
- O I could give you a long list of dislikes; shall I elaborate?
- O I haven't voted yet or anything....
- O Besides, I dislike cooking.....
- O People at least notice you if you're fat...
- O I hope he (Kennedy) does a better job than the last president did.
- O ....big things don't bother me....



Film EE

INSTRUCTIONS: Listed below are some physical and behavioral attributes which might or might not apply to the person you have just seen in the film. Darken the circle for those that you are fairly certain do apply to this person. Please work as quickly as possible.

0 long hair	0 slumped posture
0 seems energetic	0 blue dress
0 fat	0 black sweater
0 no lipstick	0 round shoulders
0 narrow eyes	0 slow speaking
0 large teeth	0 dark complexion
0 full lips	0 no dimples
0 red hair	0 blue eyes
0 long neck	0 long, thin nose
0 laughs readily	0 large wrist watch
0 untidy hair	0 seldom laughs
0 short, broad nose	0 elaborate hair-do
0 dark eyebrows	0 light eyebrows
0 no wrist watch	0 lipstick
0 dark eyes	0 slender build
0 blue & black scarf	0 blond eyelashes
0 dimple in cheek	0 brown hair
0 speaks rapidly	0 thin lips
0 black tweed coat	0 small teeth
0 pale complexion	0 erect posture









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